

Remarks/Arguments:

In response to the Office Action, the applicant offers the following remarks. First, the applicant appreciates the opportunity given his counsel, Kevin R. Casey, to discuss the subject matter of the claimed invention in a telephone interview with Examiner Rosenbaum on December 6, 2006 (see Interview Summary, Paper No. 20061206, mailed by the U.S. Patent and Trademark Office on December 7, 2006). The applicant makes the substance of the interview of record, in compliance with 37 C.F.R. §§ 1.2 & 1.133(b) and M.P.E.P. § 713.04, as follows. The interview began with a resolution of the rejection under 35 U.S.C. § 112 (see below). Mr. Casey then summarized the disclosure of the principal reference, U.S. Patent No. 3,959,897 issued to May, and the secondary reference, U.S. Patent No. 1,954,288 issued to Francis. Specifically, both references teach a crusher having a jaw with limited, oscillating movement in one plane. Mr. Casey discussed the distinctions between the applicant's invention and the references, with reference to the applicant's "Substitute Specification With Revision Marks Accepted" ("the specification") as filed along with the application, and suggested limitations to the three, pending, independent claims (namely, 1, 19, and 20) to highlight those distinctions. Examiner Rosenbaum expressed his initial concurrence that the limitations appeared to distinguish the applicant's invention from the cited references. It was agreed that the applicant would submit this Response amending the claims and presenting the remarks, as discussed during the interview.

A. *Section 112 Rejection*

The Office Action rejected claims 1-18 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Specifically, the Office Action asked whether, in line 10 of claim 1, the "element" listed is the same as the element previously mentioned. During the interview, Mr. Casey pointed out that claim 1 recites "an element for moving the first jaw relative to the second jaw, the element imparting" (Emphasis added.) The Examiner agreed that this limitation of claim 1 met the requirements of Section 112.

B. *Section 102/103 Rejections*

The Office Action rejected claims 1-5, 11-13, 15, 18, and 19 under 35 U.S.C. § 102(b) as being anticipated by the '897 patent issued to May. Claims 6-10, 16, 17, and

20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the May patent in view of the '288 patent issued to Francis. Remaining claim 14 was rejected under Section 103(a) as unpatentable over the May patent in view of a third reference.

Anticipation requires that each and every limitation of the claim be disclosed, either expressly or under principles of inherency, in a single prior art reference. *In re Robertson*, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (reversing Board's anticipation rejection that was based on principles of inherency); M.P.E.P. § 2131. Absence from the reference of any claimed limitation negates anticipation. *Rowe v. Dror*, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997) (preamble claim limitation reciting a balloon angioplasty catheter not anticipated by a general purpose balloon catheter).

Claim 1 recites, as one limitation, " an element including at least one eccentric for moving the first jaw relative to the second jaw, the element imparting to the first jaw a combined rotational and translational movement relative to the second jaw, in which a first component of the movement is away from and towards the second jaw and a second component of the movement is substantially parallel to the direction of flow, the combined movement creating a chewing motion." As a second limitation, claim 1 recites, "the at least one eccentric rotating through 180° to define a first position, in which the inlet opening has a maximum cross-section, and a second position, in which the inlet opening has a minimum cross-section." The May and Francis references neither expressly nor under principles of inherency disclose either of these two, highlighted limitations. Accordingly, the applicant respectfully submits that the applied references do not anticipate claim 1.

1. *Combined Rotational and Translational Movement*

On page 1, third paragraph under the heading "Technological Background," of the specification, the applicant discussed the May patent:

Stone crushing devices are known from U.S. Pat. No. 3,959,897, U.S. Pat. No. 1,954,288 and DE 580475. The first document discloses an excavating bucket having a vibrating cutter head and a crusher including a pair of jaws that are moved toward one another by an eccentric oscillating shaft. The shaft oscillation is so limited as to produce just an up-and-down movement of the jaws. (Emphasis added.)

Thus, the applicant highlighted the limited oscillating movement of conventional May crusher as restricting the effectiveness of the device. The limited oscillating movement of such devices is one of the problems solved by the applicant's claimed invention.

Accordingly, as described in detail in the fifth paragraph on page 2 of the specification, the objects of the invention are achieved, in part, by providing an element, for moving the first jaw relative to the second jaw, that "can impart to the first jaw a combined rotational and translational movement relative to the second jaw, in which a first component of the movement is away from and towards the second jaw and a second component of the movement is substantially parallel to the direction of flow."

This combined movement is characterized as a "chewing" motion. See the first full paragraph on page 7 of the specification ("The resulting movement comprises a component substantially perpendicular to the movable jaw 5 and a component parallel thereto, along the direction of flow of the stone, in a manner similar to a 'chewing' motion, promoting crushing of the stone and its movement towards the outlet opening 4."). As amended, claim 1 highlights the combined movement of the applicant's invention.

No structure in the applied references is capable of performing the combined movement of the claimed element. Therefore, neither the May reference nor the Francis patent anticipates claim 1.

Turning first to the '897 patent, May teaches a crusher having a movable jaw positioned above a base plate. An "eccentric mechanism connected to the forward edge of the movable jaw is operable for causing the movable jaw to oscillate toward and away from the base plate." May Patent at column 1, lines 60-63. The oscillating movement is further described at column 3, lines 27-29, of the '897 patent: "Between the side plates 42 near the forward edge thereof is an eccentric shaft 64 with means in the form of a fluid motor 66 for oscillating the shaft." Similarly, Francis teaches, in the '288 patent, a crusher having a movable jaw 6 mounted on a shaft 2. The movable jaw "is given an oscillating movement by eccentrics 7 on the shaft 2." Francis Patent at column 1, lines 33-36.

There is no indication, in either the May or the Francis patent, that the crusher movable jaw has any movement other than oscillation about an equilibrium position toward and away from a fixed component (base plate 36 for the May device, stationary jaw 5 for the Francis device). Certainly, neither reference discloses or suggests translational movement of the movable jaw relative to the fixed component and substantially parallel to the direction of flow. The claimed invention offers advantages over conventional crushers by providing combined rotational and translational movement. "One of the main advantages is that, by virtue of the type of movement of the jaw and of the provision of a

vibrator, blockages of material and consequent stoppages of the processing are minimized." See the specification at page 8, penultimate paragraph.

2. *Eccentric Rotating Through 180°*

As highlighted above, the applicant's claimed invention offers the improvement of combined rotational and translational movement. In addition, the magnitude of the rotational movement is enhanced relative to conventional crushers. Amended claim 1 requires a complete rotation of the eccentric: "the at least one eccentric rotating through 180° to define a first position, in which the inlet opening has a maximum cross-section, and a second position, in which the inlet opening has a minimum cross-section." This claim limitation is supported by the last paragraph on page 6 of the specification:

Owing to the effect of the two eccentrics 15, 16, the hollow sleeve 19, which is freely rotatable on the bearings 17, 18, can perform a rotational/translational movement relative to the axis of the shaft 14; in particular, the first end 7 of the movable jaw 5, which is fixed to the sleeve 19, is moved from a first position, in which the inlet opening 3 has a maximum cross-section, to a second, opposite position which differs from the first by a rotation of the eccentrics 15, 16 through 180°, and in which the inlet opening 3 has a minimum cross-section. The first end 7 of the movable jaw 5 adopts all of the intermediate positions between the above-defined first and second positions, during its rotational/translational movement. (Emphasis added.)

No structure in the applied references is capable of performing the complete rotational movement of the claimed eccentric. Therefore, for this reason, too, neither the May patent nor the Francis patent anticipates claim 1.

May teaches: "On eccentric regions along the shaft, there is journaled the top crusher jaw 68 so that as shaft 64 is oscillated, the left, or forward, end of upper jaw 68 will move up and down in the cutter head as indicated by the dashed outline of the cutter head in its lower position in FIG. 3." May Patent at column 3, lines 29-34. As shown in FIG. 3 of the May patent, the oscillation of the eccentric shaft 64 is limited. In fact, the oscillatory motion as depicted in dashed lines by FIG. 3 (which indicate the end of the oscillation stroke) is limited to less than 10°, and certainly far less than 180°. Similarly, in FIG. 2 of the '288 patent, Francis illustrates a maximum oscillation stroke (between the stationary jaw 5 and the stationary frame 1) of about 30 to 40°--again far less than 180°.

There is no indication, in either the May or the Francis patent, that conventional crusher eccentrics have anywhere near the complete rotational movement provided by the claimed eccentric. The claimed invention offers advantages over conventional crushers by providing such complete rotation. As recited on page 8 of the specification, such advantages include increased crushing power and production efficiency.

The nonobvious differences between the invention recited in claim 1 and the applied references have been discussed above. May does not disclose or suggest structure which either imparts to the first jaw a combined rotational and translational movement relative to the second jaw or performs complete rotational movement of the eccentric. The crusher of the Francis patent fails to fill that void. Accordingly, the subject matter recited in amended claim 1 would not have been obvious to a person of ordinary skill in the art at the time of the applicant's invention.

Because claims 2-18 depend from patentable claim 1, they are also patentable. *See, e.g., In re McCarn*, 101 USPQ 411, 413 (CCPA 1954) ("sound law" requires allowance of dependent claims when their antecedent claims are allowed). Moreover, claims 2-18 are neither anticipated by nor obvious in view of the applied references. Independent claims 19 and 20 have been amended to recite both of the limitations of claim 1 highlighted above. Therefore, the subject matter recited in claims 19 and 20 is also patentably distinguishable from the applied references.

C. *Conclusion*

For all of the foregoing reasons, pending claims 1-20 are in condition for allowance. The subject matter recited in those claims is not anticipated by, nor would it have been obvious to a person of ordinary skill in the art at the time of the applicant's invention in view of, the applied references. Moreover, the requirements of Section 112, second paragraph, are met.

The rejections under 35 U.S.C. §§ 102, 103, and 112 should all be withdrawn. Favorable action is earnestly solicited. Finally, the Examiner is invited to call the applicant's undersigned representative if any further action will expedite the prosecution of the application or if the Examiner has any suggestions or questions concerning the application or the present Response. In fact, if the claims of the application are not believed to be in full condition for allowance, for any reason, the applicant respectfully requests the

constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims pursuant to M.P.E.P. § 707.07(j) or in making constructive suggestions pursuant to M.P.E.P. § 706.03 so that the application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,



Kevin R. Casey, Reg. No. 32,117
Attorney for Applicant

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Stradley Ronon Stevens & Young, LLP
Great Valley Corporate Center
30 Valley Stream Parkway
Malvern, PA 19355-1481
(610) 640-5800

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